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ABSTRACT

The Bilingual Component of English-As-A-Second Language Project, funded under Title I of the 1965 Elementary Secondary Education Act, represents local educational pilot efforts to demonstrate the utilization of the Spanish language and culture as a leverage for adjustment and achievement, rather than as a barrier, in the process of acclimation to a different culture. The goal of the Bilingual Program is to enable the natural bilingual children to grow up speaking both good Spanish and good English and to develop positive attitudes toward bilingualism and biculturalism. The project served a total of approximately 35 primary school age children. Average daily membership was estimated at 32 children. These children represented six public and one parochial schools. Based on questionnaire responses, interviews, and periodic-on-site observations, the evaluation report attempts to respond to the following questions: To what degree were the process objectives implemented? What were the opinions of school personnel and program staff relative to the project? Were there differences in basic reading and math skills between bilingual participants and comparable control groups? (Author/JM)

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ENGLISH-AS-A-SECOND LANGUAGE BILINGUAL COMPONENT

TITLE I FUND

FUND NUMBER 58-5

1971-1972 EVALUATION

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THE 1971-1972 EVALUATION REPORT OF ENGLISH-AS-A-SECOND LANGUAGE BILINGUAL COMPONENT WILL ATTEMPT TO RESPOND TO THE FOLLOWING QUESTIONS:

1. TO WHAT DEGREE WERE THE PROCESS OBJECTIVES IMPLEMENTED?

2. WHAT WERE THE OPINIONS OF SCHOOL PERSONNEL AND PROGRAM STAFF RELATIVE TO THE PROJECT?

3. WERE THERE DIFFERENCES IN BASIC READING AND MATH SKILLS BETWEEN BILINGUAL PARTICIPANTS AND COMPARABLE CONTROL GROUPS?

ENGLISH-AS-A-SECOND LANGUAGE BILINGUAL COMPONENT

I. INTRODUCTION

The Bilingual Component of English-As-A-Second Language Project represents local educational pilot efforts to demonstrate the utilization of the Spanish language and culture as a leverage for adjustment and achievement, rather than as a barrier, in the process of acclimation to a different culture.

A. Needs and Rationale

Recently, voices have been raised calling for language maintenance programs, bilingual education, and preservation of the child-home bond. This implies a departure from the traditional educational role of public schools whose usual functions included acculturation and helping children acquire familiarity, and later, a mastery of the English language.

Pressures for implementation of bilingual educational programs appears to have coincided with the growing nationalism of the different ethnic groups. However, awareness of the need for this type of program has come with increasing recognitionthat nation-wide efforts of bringing pupils into the mainstream of academic life through the traditional channels, had fallen short of its goal. Spanish-speaking pupils continues to function below expectancy in reading and math skills. Inadequate school motivation stemming from a poor or low "self-concept" is also deemed to be a vital factor in their school performance.

A look at the psychological effect of the cultural reconstruction appears to be of some value. Upon class placement, he is given to understand that, although, many of his peers speak his native language, that language should not be spoken in his classroom. The implication to the child, is that his language is not good enough, is, therefore, downgraded. The rejection of this child's language disturbs the personal value system, possible interfamilial relationships and his developing a self-image. Subsequent school efforts to offset these effects, no matter how well intended, could not undo the effects of language restruction for some children.

Furthermore, while the child is learning English, he probably can not function in his grade placement. Only a child of above average intelligence, or one with great dedication and perseverance, could successfully overcome the difficulties involved.

The Cleveland Public Schools, while stressing the importance of attainment of some proficiency of the English language, also recognizes the unique educational needs of pupils whose mother tongue is Spanish through the creation of the Bilingual Program of ESL Project. It attempts to demonstrate the feasibility of instituting a language maintenance program through the joint use of the Spanish and English languages for instruction.

The goal of the Bilingual Program is to enable the natural bilingual children to grow up speaking both good Spanish and good English and to develop positive attitudes towards bilingualism and

biculturalism. Its immediate objective is the development of a unique program of instruction and curriculum which will demonstrate the joint utilization of the Spanish language and culture as a leverage for adjustment and learning, rather than as a barrier in the process of acclimation to an alien culture. Spanish and English will be used jointly as the language media of instruction.

Program participation may serve as a transition period during which children can gain mastery of basic concepts in math, science, and social studies, as they develop some proficiency in the use of and in the understanding of the English language. With one language reinforcing the second in a classroom atmosphere devoid of anxiety, it was speculated that success experiences needed for learning and achievement could be easily provided. (Anticipated product objectives are not explicitly stated because of the program's initial operation. Assessment of program participation on children's performance will be at best exploratory).

. The process objectives were as follows:

1. Two teachers will be assigned to the Hicks Bilingual Component:

   . A native Spanish-speaking teacher will concentrate on teaching basic skills in science, social studies, and mathematics in the Spanish language.

   . A native English-speaking teacher will concentrate on teaching oral communication and reading skills in the English language.

2. A teacher-pupil ratio of 1-15 will be maintained.

3. Instruction in Science, Social Studies, and Math will be presented in Spanish.

4. Development of Spanish instructional materials in science, social studies, and math will be initiated and utilized in the program.

5. A non-graded curriculum sequence and instructional program will be continued.

6. English oral communication and reading skills will be taught in English.

7. Opportunities will be created for Project participants and native English-speaking peers to interact with one another.

8. Two teacher assistants will be assigned to facilitate small group and individual instruction for the children.

9. Parents will be involved in regular meetings and conferences with Project staff.

10. Pupils will be provided with round-trip bus transportation from their home school to the center daily.

11. Monthly field trips will be implemented in order to provide opportunities for orientation to the city, familiarization with the immediate community, and reinforcement of the curriculum.

B. Historical Background

The Bilingual Program is a component of the Title I English-As-A-Second Language Project, which provides a specialized program of instruction designed to help second-language learners at the elementary level, acquire some proficiency in the use of the English language, as well as in helping them adjust to the immediate environment. The 1971-1972 school year represents its first year of program operation, and was implemented at Hicks School, a Title I elementary school with a high concentration of Spanish-speaking pupils.

C. Summary of Operations[1]

The Project served a total of approximately 35 primary school age children. Average daily membership was estimated at 32 children. These children represented six public (Hicks, Kentucky, Paul L. Dunbar, Scranton, Tremont, and William H. McGuffey) and one parochial (Saint Patrick Urban Community) schools.

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[1] Title I cost per child in the Bilingual Program was included in the estimated expenditure per child in the ESL Project. A separate estimate of the cost per bilingual child could not be done for the school year 1971-1972 because its operation was a part of the ESL Project. Cost per child in the ESL Project was estimated at $475.00. This is an added cost to the $503.77 per pupil instructional cost incurred from general funds.

II. HIGHLIGHTS OF FINDINGS

A. Assessment of Program Implementation

Evaluation of the 1971-1972 Bilingual Program of ESL Project focused on the degree of implementation of process objectives and opinions and impressions of school and bilingual personnel who were involved directly or indirectly with the program. Based on questionnaire responses, interviews, and periodic-on-site observations, the Bilingual Program was implemented at Hicks School according to the process objectives (see pages 3-4). The program appeared to generate a great deal of enthusiasm among the school and program staff and participants.

The following key findings were noted:

1. The program has contributed meaningfully to the "educational growth" of the regular school staff, and had, therefore, enriched the total school program, according to the school principal.

2. Children in regular classes were reported by the school principal to be "receptive" of, and accepting of the Bilingual participants.

3. Bilingual participants appeared to demonstrate increasingly more positive attitudes towards learning and school in general, as they were under less pressure to learn the English language, and as they were exposed to a language they were familiar with in the teaching of basic math, social studies, and science skills.

4. Bilingual participants evidenced some improvement in speaking skills in the Spanish language. They were less conscious about speaking Spanish in the school, and appeared to have acquired increasingly more pride in their background and in their language.

5. Parents' reactions to the program have become increasingly positive over time as they began to understand the objectives of this program. Parents became less apprehensive about the program's effect on the learning of the English language, as they were provided with opportunities to visit classes, and for more personal contacts with Bilingual staff.

6. Development of the curriculum for the Bilingual Program has been initiated during the 1971-1972 school year. Continued work on curriculum development represents one of the major objectives of the program, as it attempts to build an existing curriculum guide through integration of learning experiences that are unique to the population represented by the Bilingual participants.

B. Assessment of Growth in Basic Skills

Exploratory assessment of differences in acquisition of basic math and reading skills at the end of the school year were made between Bilingual and two control groups (Control 1 consisted of children comparable in grade, in ethnic background, and level of language proficiency who were attending regular classes; Control 2 consisted of children comparable in the indicated variables, who were attending regular classes, but participated in specialized English classes to help them develop some proficiency in the English language).

The following observations were noted:

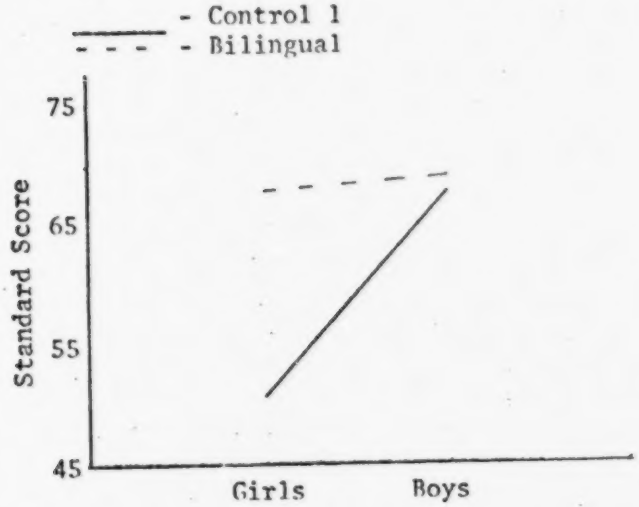
1. Differences in acquisition of basic reading and math skills in May 1972 at first grade, between Bilingual and comparable control groups (Control 1 and 2) were not significant, based on performance on Metropolitan Achievement (MAT) Primer Test.

2. Overall group difference in acquisition of basic reading and math skills in May 1972 at second grade between Bilingual and Control 1 children was not significant, based on performance on MAT Primary I.

3. However, differences in acquisition of basic mathematics skills in May 1972 at second grade attributed to significant Sex X Treatment interaction effects were highly significant ($p < .05$). Significant interaction effects appeared to be a function of the marked difference between Bilingual and Control Girls, as compared to the small differences observed between the Boys in the Bilingual and Control 1 groups (Figure A).

FIGURE A

ADJUSTED MEAN PERFORMANCE BY SEX BY TREATMENT ON MATHEMATICS SUBTEST IN MAY 1972



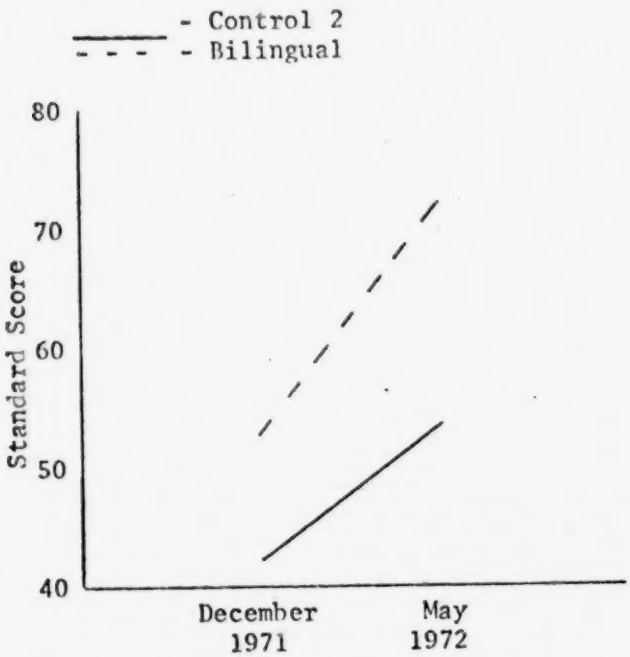
	Girls	Boys
Control 1	50.76	67.43
Bilingual	67.51	68.57

4. Overall group difference in acquisition of basic reading and mathematics skills in May 1972 between Bilingual and Control 2 groups at second grade, was significant ($p < .05$). Performance in Word Knowledge and Mathematics subtests contributed most significantly to the indicated difference:

- Bilingual children evidenced significantly higher level of basic mathematics skills, as compared to Control 2 children. The observed superior performance of Bilingual participants was a function of greater gains made over a four-month period as compared to gains of Control 2 children (Figure B).

FIGURE B

OBSERVED MEAN PERFORMANCE OF CONTROL 2 AND BILINGUAL CHILDREN ON NUMBERS SUBTEST

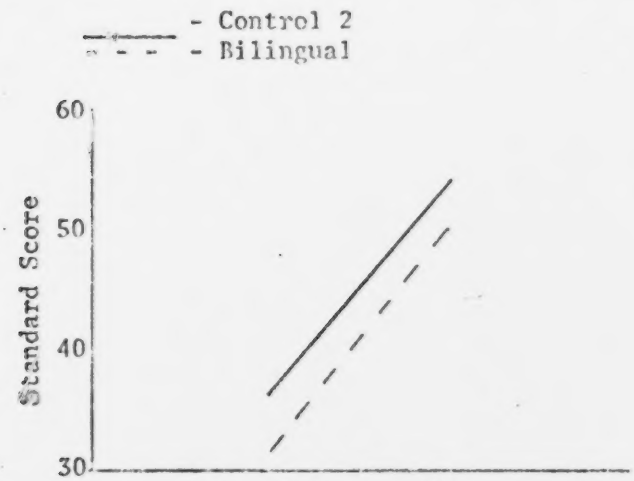


	December 1971	May 1972
Control 2	42.20	53.72
Bilingual	51.52	72.25

- Control 2 children evidenced significantly higher level of reading vocabulary skills, as compared to Bilingual children. However, this observed difference on Word Knowledge subtest, was a function of earlier differences noted in December 1971 (Figure C).

FIGURE C

OBSERVED MEAN PERFORMANCE OF CONTROL 2 AND BILINGUAL CHILDREN ON WORD KNOWLEDGE SUBTEST



	December 1971	May 1972
Control 2	36.75	54.62
Bilingual	31.20	50.10

5. Overall group difference in acquisition of basic skills between Boys and Girls (Bilingual-Control 2 Groups) was highly significant ($p < .01$). Performance on Word Analysis and Mathematics subtests contributed most significantly to the observed difference:

   - Girls demonstrated a significantly higher level of basic decoding skills and sound-letter relationships in Word Analysis than did Boys. The observed difference in favor of girls in May 1972, appeared to be a function of earlier difference in December 1971.

. Boys showed a significantly higher level of knowledge of basic math principles and relationships. Observed difference appeared to be a function of greater gains over time among boys as compared to girls.

C. Implications and Recommendations

The Bilingual Component of the ESL Project is successful in terms of program implementation and curriculum development. Exploratory assessment of growth in basic skills suggested that Bilingual children were showing progress in these areas, as good as, if not better in some cases, as comparable control children. When one considers that the participants were exposed to a program which had to be structured, where curriculum had to be defined and developed, and with attendant woes and problems associated with its first year of operation, it is amazing that the children managed to show any kind of growth at all. Test data obtained during this school year will serve as a baseline data with which to compare level of achievement in the future when the focus shifts from assessment of process to assessment of product objectives.

Implementation of the program was not always smooth, and had its share of difficulties and problems which were to be expected in its initial venture. Roles had to be structured and defined, not only relative to the school in which it has been located at, but also relative to the ESL Project, and among the Bilingual staff themselves. Who does what? Who is responsible to whom and for what? In addition, the program had to grapple with possible affects relative to the self-contained structure of the two classes. What effect will this have on the pupils in the regular classes in terms of their perception of the

Bilingual participants? Does this sound like isolation....segregation....? And what about the effect on the participants themselves? These represent only a sample of the many questions that the staff was confronted with during the year.

There were indications of staff's efforts to address themselves to some of these questions. The school principal's enthusiastic opinion of the program, and its influence on the total school program, suggests that a working relationship with the school has been established in its initial year of operation. Roles and responsibilities of Staff within the Bilingual Program appeared to have been defined, based on the Bilingual Program Guidelines prepared by the Component's Teacher Consultant. Furthermore, experiences involving both native English-speaking peers and Bilingual participants were integrated into the Bilingual Program, as the staff recognizes that the real world is largely populated by English-speaking natives. For example, social studies, gym classes, music, and art experiences were frequently shared with children in the other primary grades. Some field trips were planned for both participants and English-speaking peers, which not only provided participants with concrete experiences of their immediate surroundings, but also provided opportunities for practice of oral communication skills.

The negative feature alluded to, by staff, was lack of planning time. Time involved in developing the curriculum, in planning for day-to-day activities in the absence of a framework in which to operate, planning for parent programs and involvement, planning for paraprofessional staff in order to make better use of their skills was tremendous. Planning time appeared to be just as critical, although, the Bilingual

Program was serving fewer children, because structure had to be provided, guidelines had to be developed, and simultaneously provide direct services to children.

One of the program's more exciting accomplishments in terms of process objectives was the development of a bilingual curriculum. Work has been initiated during the year, and although, the product is by no means final, it has helped provide some structure to the program. Their efforts have been focused on building on existing curriculum guides through integration of unique Spanish learning experiences judged to be meaningful to this population. Staff efforts to date, are focused on continued development of this program, especially, in the areas of science and social studies.

Recommendations based on data presented, and based on interviews with school and bilingual staff personnel, are as follows:

1. The Bilingual Program should be continued, but inclusion of children at the kindergarten level should be seriously considered.

2. Development of the Bilingual Program must continue to focus on process objectives, especially the planning of, and in the writing of a Bilingual Program curriculum.

3. Allocation of more planning time for staff, through the addition of more bilingual teachers.

4. The Bilingual Program should continue to involve parents in their program, and to help them understand its rationale and objectives.

III. PROJECT DESCRIPTION

A total of seven Title I schools participated in the Bilingual Component during the 1971-1972 school year. These schools included Hicks, Kentucky, Paul L. Dunbar, Saint Patrick Urban Community School, Scranton, Tremont and William H. McGuffey.

A total of approximately 35 children was served with grade distribution as follows:

First Grade		19
Boy	11	
Girl	8	
Second Grade		16
Boy	9	
Girl	7	

Criteria for eligibility for participation are as follows:

- Attendance in any one of seven Title I schools.
- Native speakers in the Spanish language with very limited English speaking skills.
- Attendance in first and second grades.
- Parents' approval of child's participation.

A. Participant Characteristics

Participants demonstrated the following characteristics:

- Participants at first grade were functioning at the first quartile range in knowledge of beginning-ending sounds and sound-letter relationships, as well as in understanding of basic mathematics principles and relationships. They were functioning barely at the lower second quartile range in beginning reading skills, which called for letter identification, picture-word, and picture-sentence matching.
- Participants at second grade were functioning at the first quartile range in vocabulary, sound-letter and beginning-ending sounds, and comprehension of written material. They were functioning at the second quartile in knowledge of basic mathematics principles and relationships.

B. Project Operations

The Bilingual Component consisted of two self-contained classes under two bilingual teachers. The English language was utilized for instructional purposes in one class, while the Spanish language was utilized in the other class.

Participants were taught either in Spanish or in the English language, according to the subject matter. Responsibilities for instruction in English or in Spanish were assigned separately as follows:

- The teacher designated to utilize the English language for instructional purposes was responsible for English-As-A-Second Language, Language Arts, Reading, and Handwriting.
- The teacher designated to utilize the Spanish language for instructional purposes was responsible for Mathematics, Social Studies, and Science.
- Both bilingual teachers were responsible for Physical Education, Music, and Art.

In addition, each bilingual teacher served as a homeroom teacher. Younger children (Grade 1) were assigned to the teacher designated for English instruction. Older children (Grade 2) were assigned to the teacher designated for Spanish instruction.

(Refer to samples of a one day lesson plan in Appendix A-1 and A-2).

Curriculum and Instruction: A systematic program of instruction was provided to participants during the 1971-1972 school year, utilizing the following approaches:

- Strengthening children's basic language skills which will enable them eventually to participate in the English-speaking world.

- Presenting designated subject areas such as Science and Mathematics in the mother tongue of participants in order to prevent possible interruption of acquisition of new learning resulting from "language barriers."

- Fostering an understanding, appreciation, and acceptance of both Spanish-American and American cultural heritage.

English-As-A-Second Language: The audiolingual method has been used to strengthen basic listening and speaking skills. This method utilized a variety of techniques based upon abilities and interests of the child at the lower primary grades. The "Young Beginner's Book," a collection of daily lesson plans developed at the local level, served as the curriculum guide in strengthening the basic language skills of participants. Lesson presentations consisted of the following three parts:

- Modeling Stage - New vocabulary words were presented within a language pattern to the pupils by the teacher who serves as a model by saying the word. Pupils repeat these vocabulary words in groups or individually after listening to the teacher say a word.

- Signaling Stage - The teacher no longer modelled specific vocabulary words but elicited responses through visual cues or verbal questionning.

- Drilling Stage - Opportunities were created for pupils to practice speaking the English language until a certain level of proficiency has been attained, through such activities as games, structured situations, etc.

(See a sample of an ESL Unit in Appendix A-3).

Creative use of a variety of techniques were utilized for presentation of new vocabulary items, or sentence structures, or for reviewing what has been presented before. The following techniques had been utilized:

- Dialogue - The dialogue as a media provided pupils opportunities to practice in the speaking of the English language. The use of dialogues based on classroom experiences would be very relevant and meaningful to children at this age range. The use of props, visual aids, role playing, for structuring dialogues, help enhance acquisition of new words, etc.

- Filmstrips - Language filmstrips help pupils to become more sensitive to the sounds and rhythms of the English language. Retelling of the story in the English language, or reenactment of the story using the English dialogue were found to be helpful, as children were encouraged in substitution of words and in sentence transformations.

- Poetry - Poetry was used to enrich pupils enjoyment of the English language as they were introduced to new vocabulary words, and as they became more aware of the English language rhythm. Poems were selected with great care and were usually short and simple to understand.

- Language Master - The language master is a teaching machine which can be used to individualize instruction and to provide practice periods in English without the assistance of a live model. The machine itself consists of a small portable unit in which cards containing visual material are inserted. Each card has a dual track magnetic tape. On one, the instructor's voice is recorded. The other track is used to record student responses. Pupils inserted a card into the machine and looked at the picture while he listened to the voice of the instructor. He then recorded his own response and compared it to the model. Program cards were also used without the machine for group instruction.

  Pre-recorded programs used in the Bilingual Program included vocabulary building sets, verb sets, pronunciation sets, and a set of blank cards. The blank cards were used by the staff to create original programs in various areas of the curriculum.

Reading: A linguistic approach was used to help develop decoding skills of beginning readers. The reading program was based on the Miami Linguistic Reading Series, a two-year reading program.

The reading program is guided by the following linguistic premises:

- Beginning reading materials should deal with things which are of interest to children.
- Reading materials should reflect the natural form of children's language; words in print must represent speech, and vice versa.
- Pupils must have aural-oral control of materials before presenting it to them in written or print form.
- Beginning reading materials must focus on the process of reading rather than on the uses of reading.
- Sound-symbol correspondences in beginning reading should be presented in spelling patterns rather than in individual letter-sound correspondences.
- The nature of the materials should dictate the learning load.
- Grammatical structures as well as vocabulary items should be controlled.
- Students must learn to read by structures if they are to master the skills involved in the act of reading.
- Writing experience should reinforce listening, speaking, and reading.
- Material must be selected and organized to provide success for the learner as he progresses.

The Miami Linguistic Reading Series consists of a reading readiness unit of 21 short readers. Each series represents a new level. Each level builds on the grammatical units, vocabulary and spelling patterns developed in the preceding level. Children who read their native language were found to read the target language faster than those students with no previous reading experience.

Several reading groups were formed based on the amount of time it takes children to master a given reading level. Evaluation of mastery was based upon the testing provided by the series and upon the teacher's observations. The teacher's manual which accompanied each level provides basic lesson plans for each day's work.

Several activities were introduced into the reading program to allow for individualized instruction. These included the following:

- ESL Reading Games in the "Young Beginner's Book" for individual and group-work activities: Tutors were utilized by teachers to assist in implementing these activities.

- Dramatization based on studies in the Miami Series: Role playing provided by participation in dramatization provided for additional practice in reading and in oral communications. Furthermore, it allowed children who are too shy to speak, to lose themselves in the role they are playing, and created opportunities for learning idiomatic expressions.

  Dramatizations were presented through the reading of stories in script form, or through actual dramatization. Several activities resulted out of these productions, such as writing of invitations, making of costumes and scenery in art classes, provision of music through the rhythm band, etc. Puppet theatre and radio plays were also utilized to supplement activities intended to develop reading skills.

- Individualized reading for pupils who completed the Miami Reading Series rapidly: These pupils mastered decoding skills and unlocked new words with ease which they were not able to understand. Skills of tutors and teacher assistants were utilized to assist those children who have progressed beyond expectancy. Stories were read to the tutors by these children, and the tutors assisted these children by defining key words in the story and modelled these in sentences for the children. Language masters and filmstrips were also made accessible to these children.

Mathematics: The math program has been based on the mathematics curriculum of the Cleveland Public Schools. Instruction, however, is carried out in the Spanish language.

Emphasis was placed upon developing an understanding of fundamental mathematics concepts and principles. Concrete experiences for manipulation and handling of discrete objects were provided as an initial step toward helping children acquire basic number relational concepts, before exposure to activities requiring computational skills. Materials in the Spanish language were available for students to take home for additional practice when desirable. ESL language lessons were presented after the completion of a mathematical unit in Spanish. Children were taught the English math vocabulary which correlated with the material they have mastered in Spanish. Review math lessons in English were presented periodically as children gain proficiency in the language.

Students work in an ungraded situation. Small group sessions and individualized instruction were used to advance them through the program at a rate commensurate with ability and maturation. The content of the program is summarized in an individual progress record form, based upon the Mathematics Placement of Objectives charts from the Teacher's Guide for Primary Mathematics for the Cleveland Public Schools (Refer to Appendix A-4). These records were used by teachers in grouping and regrouping students. They helped define goals and areas in which students need tutorial or additional help.

Science: The Science Program is based on the Science Curriculum Improvement Study (SCIS), designed to guide the child's development in his experience with natural phenomena, and to provide him with the necessary conceptual framework in which to view experiences. This program acquaints a child with concrete examples of objects and organisms, and enables him to investigate examples of natural phenomena.

Three units, introduced in sequential manner, were utilized in the Bilingual Program. These units were as follows:

- Material Objects - This unit introduces the child to fundamental concepts of objects and their properties. It provides opportunities for observation, manipulation, comparison, and transformation experiences.
- Organisms - This unit helps the child acquire some understanding of animate and inanimate (live and non-living) objects as well as some understanding of basic biological concepts.
- Life Cycles - This unit focuses on individual organisms which show the characteristics of the phenomena called "life." Opportunities were created to observe in the real world the life cycles of selected plants and animals.

This program also provided situations for the child to speak and to ask questions about the materials they worked with. Children, therefore, were not only acquiring a functional understanding of basic scientific concepts, but were practicing and probably strengthening their oral communication skills.

Instruction is conducted in the Spanish language. Curriculum is presently organized to include the use of selected English vocabulary in the second year of program implementation as the bilingual children became increasingly proficient in the use of the English language.

Art: The curriculum content of the Bilingual Art Program has been based on the Cleveland Public Schools Art Guide. Art instruction, a joint responsibility of both bilingual teachers, was integrated into the Spanish social studies program. The art work of children, such as masks, puppets, drawings of sceneries, etc., was used with classroom dramatizations and dialogues. Children were encouraged to express through art, their understanding of newly-acquired vocabulary.

The two bilingual classes were combined sometimes for art progress. Children from the regular classes were periodically invited to participate in these bilingual art classes.

Music: The Bilingual Music Program is based on the Cleveland Public Schools Magic of Music Series designed for primary grade children. Music instruction, a responsibility assigned to the teacher who teaches in the Spanish language, consisted of Spanish songs and music (Puerto Rico, South America, and Spain), and ESL songs which came from the "Young Beginners' Book." Songs for these sources as well as songs derived from the Miami Reading Series, are interwoven into the reading and ESL program units as they helped reinforce vocabulary and pronunciation skills.

Physical Education: The Bilingual Physical Education Program is based on the Cleveland Public Schools Physical Education Course of Study for the Primary Division. Younger students participated with the first grade program while older students participated with the second or third grade program. Classes were taught twice a week alternately by the bilingual teacher and the regular classroom teacher. Joint participation of bilingual and native English-speaking children in

the gym classes created opportunities for Bilingual participants to practice speaking the English language with their peers. The bilingual students were observed to show minimal difficulty in understanding directions in gym classes. Teacher assistants were usually available for translation, if needed.

C. Staff Development

The Bilingual Program conducted a total of approximately 15 in-service sessions during the 1971-1972 school year. In-service workshops for Project staff focused on the following:

- Fostering an awareness of developing and emerging instructional strategies in bilingual instruction.
- Assessment of and evaluation of bilingual teaching techniques as presently implemented in this program.
- Discussion and staff's exchange of ideas among staff relative to the development of the bilingual curriculum in social studies and math.
- Strenghtening of skills of tutors and teacher assistants in the classroom in order to become more effective in their work with children and with teachers.
- Training of teacher assistants in the operation of audio-visual equipment in preparation of other visual aid materials utilized for classroom instruction purposes.

The Bilingual Program staff also attended in-service sessions conducted by the ESL Project, whenever the subject of discussion was pertinent to the Bilingual Program.

D. Parent Involvement Activities

Parent meetings were held periodically during the year to keep them informed of program development and to help them be more aware of their child's learning. Home visits and parent conferences were used to strengthen parent participation.

IV. EVALUATION

Assessment of the 1971-1972 Bilingual Program of the ESL Project focused on determining the degree to which process objectives had been implemented in its initial year of operation. Some explorations on possible effects of program participation on children's learning were also conducted.

The evaluation report will attempt to respond to the following questions:

- To what degree were the process objectives implemented?
- What were the opinions of school personnel and program staff relative to the Project?
- Were there differences in basic reading and math skills between bilingual participants and comparable control groups?

A. Basic Design

Project assessment utilized the following procedures:

- Questionnaires, interviews and periodic-on-site visitations were used to determine degree of program implementation.
- Multivariate analysis of covariance design was used to examine differences in level of performance of bilingual children and comparable control groups.

Assessment of Program Objectives: Questionnaire forms were completed by the school principal at Hicks and by the Bilingual Program Staff at the end of the school year. Interviews and periodic on-site visitations were made during the year.

Assessment of Differences in Pupil Performance: A multivariate analysis of covariance 2 x 3 design (Sex x Treatment) served as the evaluation model. Factors and their levels follow:

Sex

- Girl
- Boy

Treatment

- Control 1 consisted of children comparable in ethnic background, age, and grade placement who were attending only regular classes.

- Control 2 consisted of children comparable in ethnic background, age, and grade placement who were attending specialized classes in English, but continued to attend regular classes for basic subject areas.

The 1970 Metropolitan Achievement Tests (MAT) were utilized to assess growth in basic reading and math skills. Two levels were noted:

Primer (F) at First Grade

- Listening for Sounds: Measures pupils' knowledge of beginning and ending sounds, and sound-letter relationships.

- Reading: Measures basic reading skills such as alphabet recognition, picture-word, and association.

- Numbers: Measures pupils' understanding of basic mathematics principles and relationships.

Primary I (F) at Second Grade

- Word Knowledge: Measures level of pupils' reading vocabulary.

- Word Analysis: Measures knowledge of sound-letter relationships as well as basic decoding skills.

- Reading: Measures comprehension of written materials.

- Mathematics: Measures understanding of basic principles and relationships such as value, sets, measurements, and ability to add and subtract one-and two-digit numbers with no regrouping.

Project participants and comparable control groups were tested in December 1971 and in May 1972:

- The December 1971 data on the MAT Primer for first graders served as the independent variables; the May 1972 data served as the dependent variables.

- At second grade, the December 1971 data on the MAT Primary I served as the independent variables, while the May 1972 data served as the dependent variables.

B. Presentation of Findings

- Bilingual participants were reported to show positive attitudes towards their program experiences and appeared to show faster acquisition of concepts presented in the Spanish language.

- Bilingual participants appeared to be less anxious about learning the English language.

- Bilingual participants appeared to show greater pride in their Spanish background, as they began to use the Spanish language more freely.

- The program was described by the school principal to have a meaningful contribution to the "educational growth of the regular school staff," and to have created children's enthusiasm for learning.

- Differences in performance in basic reading and mathematics skillsat first grade between bilingual participants and comparable control groups over a four month span of test administration did not meet significance.

- Bilingual children evidenced significantly ($p < .01$) higher gains in basic math skills at the end of the school year as compared to Control 2 group at second grade.

- Control 2 children evidenced significantly higher level of performance in reading vocabulary skills than did Bilingual participants at the beginning and at the end of the school year at second grade.

- Differences in performance between Bilingual participants and Control 1 group did not meet significance.

1. Assessment of Project Operations

This section will attempt to respond to the following questions: What were the impressions and opinions of people who were involved directly in the Project's operation? What in their opinions, represented the strengths and weaknesses of the Project based on their observations of the first year of operation?

The opinions of the school principal, concerning the implementation of the Bilingual Program in her school building, have been very enthusiastic and positive, based on her questionnaire responses and in an interview. She described the Project as contributing something meaningful "to the educational growth of the regular teaching staff within the building," and, therefore, enriching the total school program. Furthermore, she alluded to the benefits children received from this program, resulting in "enthusiasm for learning and early progress being made...." (Refer to Appendix B-1 for a complete copy of the questionnaire).

Other key points were noted:

- Staff and parent reactions to this program have been positive based on the interest expressed in the success of this program.
- Pupils in the regular classroom were reported to be "responsive" to the Bilingual children.
- Recommendations raised by the school principal called for: A downward extension of the Bilingual Program to the kindergarten level to help these children adjust socially, emotionally, and successfully to school life; and addition of an accredited supportive teacher to the present staff who could serve as a substitute when needed.

Staff opinions relative to program implementation and perceived effects on children's learning were enthusiastic also, based on questionnaire responses and informed interviews. They described pupils' attitudes towards learning and towards school, as well as towards the use of the Spanish language to be very positive. (Refer to Appendix B-2 for complete questionnaire responses).

The following points were summarized from staff questionnaire responses:

- Learning of subject matter content appeared to be easier and less pressured when presented in their native language. Thus, attitudes have become increasingly positive during the year.

- Bilingual children were not hesitant to use the Spanish language in and out of the classroom. Evidences of improvement in the Spanish language speaking skills and acquisition of some pride in their language were pointed out.

- Bilingual participants felt freer to talk and ask questions among themselves, or with the staff, during the day. A great deal of rapport among children was noted as they expressed eagerness not only to associate with one another, but willingness to help each other in learning situations.

- Bilingual children demonstrated increasing participation in classroom activities during the nine-months of Project participation, and appeared to show an increasing use of both Spanish and English languages.

- The lack of planning time for regular day-to-day activities as well as for curriculum development, represented the major limitation of the Project.

- The downward extension of the Bilingual Program to include kindergarten children, represented the staff's primary recommendation.

2. Growth in Basic Skills[1]

This discussion will attempt to respond to the following questions: Were there any differences in basic math and reading skills between Bilingual participants and Control 1 children? Were

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[1] The reader is urged to be cautious in accepting the validity of data presented in this section for three reasons: First, this is only a pilot exploratory study of a program in operation for the first year, second, the number of cases (N) involved is extremely limited, and third, the four-month span of test-retest administration was very short.

there any differences in these indicated skills between Bilingual participants and Control 2 children?

a. Comparisons of Performance by Groups at First Grade

Differences in achievement based on performance on Metropolitan Achievement Tests, Primer Listening, Reading and Numbers subtests, attributed to sex or treatment were not significant.

Exploration of children's performance on these measures revealed that the bilingual and two control groups made comparable gains over a four month period (Figure 1). However, Bilingual participants showed larger gains (non-significant) in two out of the three Metropolitan Achievement Tests Primer subtests, when compared to the two control groups.

The following observations were made from Figure 1:

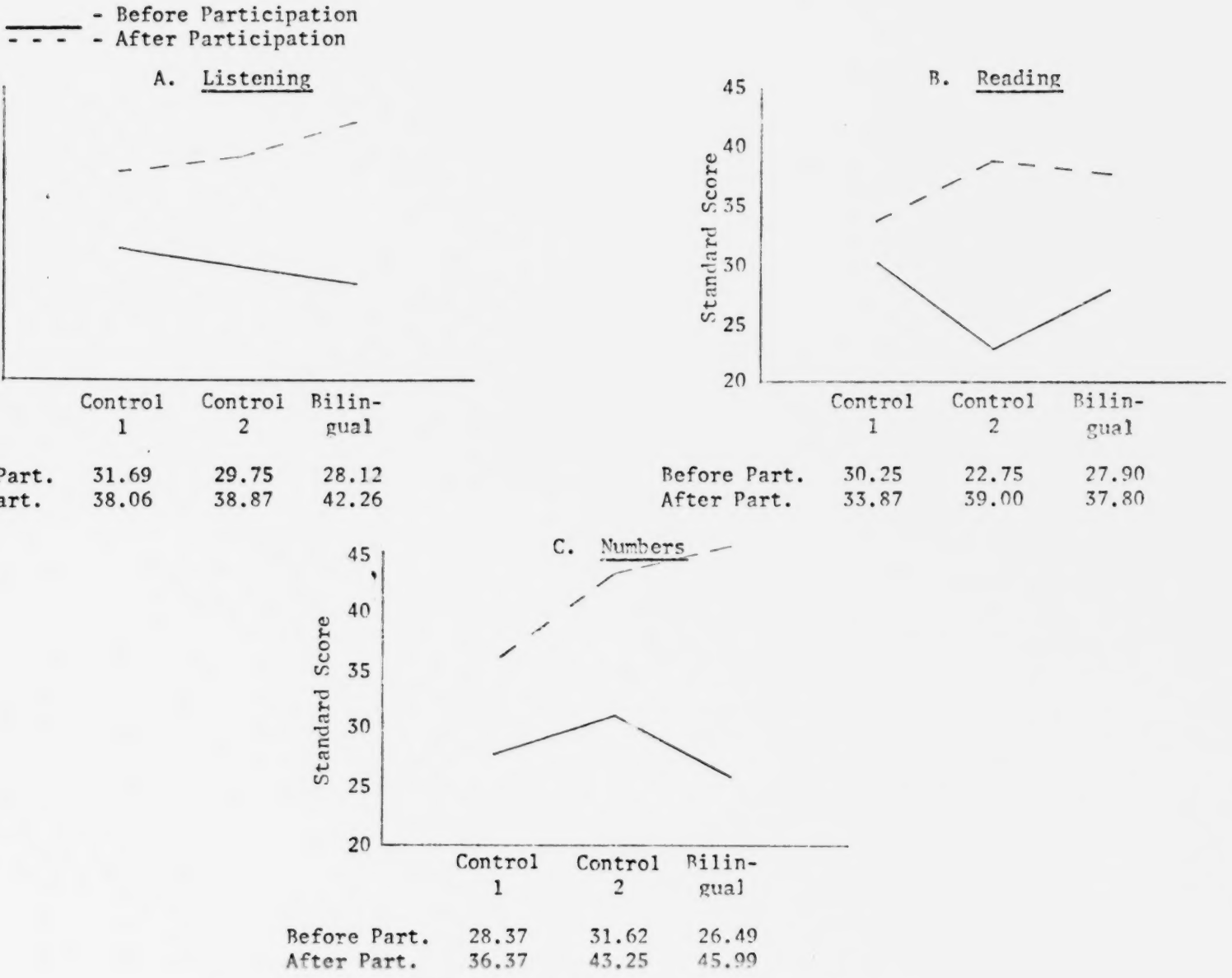
- Bilingual children evidenced the largest gain in knowledge of beginning-ending sounds and sound letter relationships. It registered a mean gain of 14.14 points as compared to the mean gains of 6.37 and 9.12 for Control 1 and Control 2 children.

- Control 2 children evidenced the largest gains in basic reading skills. It registered a mean gain of 16.25 as compared to the mean gains of 3.62 and 9.90 for Control 1 and Bilingual children.

- Bilingual participants demonstrated the largest gains in basic math principles and relationships. It reported an average gain of 19.50 as compared to the mean gain of 8.00 and 11.63 for Control 1 and Control 2 children.

FIGURE 1

GRAPHICAL ILLUSTRATION OF FIRST GRADE BILINGUAL AND CONTROL GROUPS OVER A FOUR-MONTH PERIOD BY SUBTEST



	Control 1	Control 2	Bilingual
Before Part.	31.69	29.75	28.12
After Part.	38.06	38.87	42.26

	Control 1	Control 2	Bilingual
Before Part.	30.25	22.75	27.90
After Part.	33.87	39.00	37.80

	Control 1	Control 2	Bilingual
Before Part.	28.37	31.62	26.49
After Part.	36.37	43.25	45.99

b. Comparison of Performance By Groups at Second Grade[1]

Analysis of group differences in achievement based on performance on the Metropolitan Achievement Tests Primary I Reading, Word Knowledge, Word Analysis, and Mathematics subtests, indicated the following findings:

- Overall group differences between Bilingual and Control 1 children did not meet significance.
- Overall group differences between Girls and Boys for Bilingual-Control 1 group did not meet significance.
- Overall group differences between Bilingual and Control 2 children were highly significant ($p<.05$).
- Overall group differences between Girls and Boys for Bilingual-Control 2 group were also highly significant ($p<.01$).
- Overall differences attributed to interaction effects of Sex and Treatment for Bilingual-Control 1 groups and Bilingual-Control 2 groups were highly significant ($p<.05$).

Bilingual Vs. Control 1: Overall group difference in basic skills at second grade were not significant.

Interaction Effects of Sex x Treatment Factors (Bilingual-Control 1 Group): Mean group differences attributed to interaction effects of Sex x Treatment factors were signifi-

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[1] Mean scores presented from Figure 1 represent real and observed mean values. Analysis, however, was based on adjusted mean scores which are estimates of observed scores adjusted for unequal number of cases and initial group differences in December 1971.

cant ($p<.05$) as a multivariate F-value of 3.61 was noted. However, only one out of the four subtests (Table 1) contributed significantly to the overall group difference.

TABLE 1

ADJUSTED* MEAN SCORES AND STEPDOWN F-VALUE
BY VARIABLE BY SEX X TREATMENT GROUP
FOR PERFORMANCE IN MAY 1972

Metropolitan Achievement Primary I	Control		Bilingual		Stepdown F
	Girls (N=4)	Boys (N=3)	Girls (N=4)	Boys (N=5)	
Reading	37.13	40.18	49.06	47.58	0.02
Word Knowledge	43.02	48.18	47.12	43.22	1.66
Word Analysis	44.24	42.82	47.36	44.54	0.12
Mathematics	50.76	67.43	68.57	67.51	11.36**

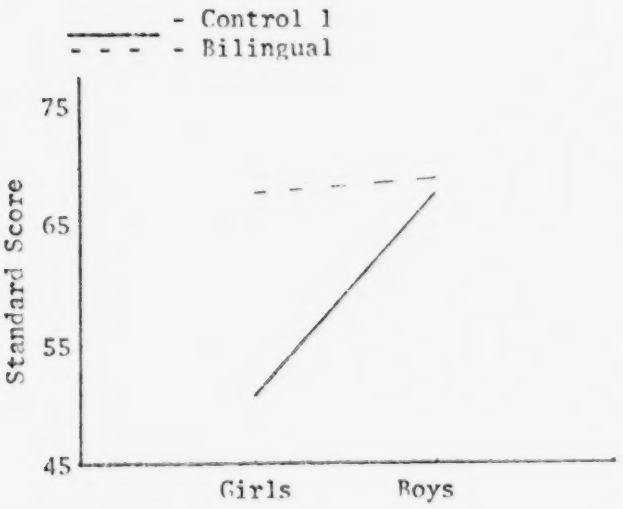
* Adjusted mean scores do not represent real or observed scores. They represent an estimate of the real scores adjusted for unequal N and initial differences observed In December 1971 performance.

** $p<.01$

When the mean performance on the Mathematics subtest of the four groups (Control Girls and Boys and Bilingual Girls and Boys) were plotted in Figure 2, it was evident that the significant interaction effects were largely a function of the marked differences between Bilingual and Control Girls. Figure 2 represents a visual presentation of mean scores in Mathematics obtained in May 1972, adjusted for unequal N and for initial differences in performance in December 1971.

FIGURE 2

ADJUSTED MEAN PERFORMANCE BY SEX BY TREATMENT
ON MATHEMATICS SUBTEST IN MAY 1972



	Girls	Boys
Control 1	50.76	67.43
Bilingual	67.51	68.57

- Differences in performance between Control and Bilingual Girls were significantly greater than the differences between Control and Bilingual Boys.
- Bilingual Girls demonstrated significantly higher level of acquisition of mathematics principles and relationships than did Control 1 Girls.
- Control 1 and Bilingual Boys evidenced comparable level of performance on the Mathematics subtest at the end of the school year.

Bilingual Vs. Control 2: Overall group differences between bilingual and control children were significant ($p<.05$), as a multivariate F-value of 3.37 was noted.

Analysis of performance on the MAT Primary I subtests indicated that two out of the four subtest measures contributed significantly to the overall group difference (Table 2).

TABLE 2

STEPDOWN F-VALUES BY VARIABLE: CONTROL 2 VS. BILINGUAL CHILDREN AT SECOND GRADE

Metropolitan Achievement	Control 2 (N=9)	Bilingual (N=9)	Stepdown F
Reading	33.50	49.05	0.71
Word Knowledge	54.62	50.10	6.60**
Word Analysis	45.90	45.80	0.10
Mathematics	53.75	72.25	4.59*

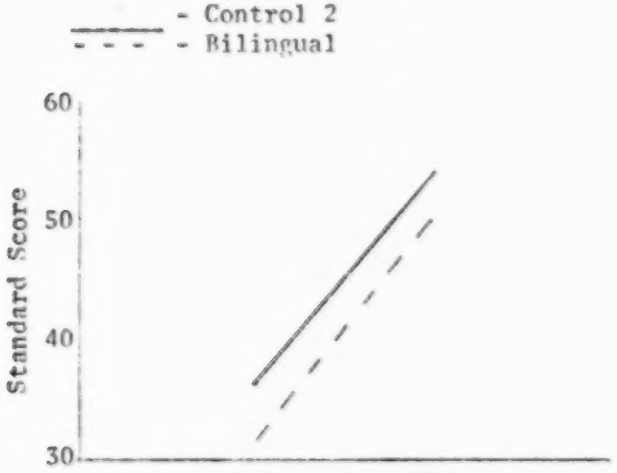
* $p<.05$
** $p<.01$

- Control 2 children evidenced significantly higher level of pupils' reading vocabulary at the end of the year than did Bilingual children, based on performance on Word Knowledge.
- However, Bilingual children evidenced significantly higher level of knowledge of basic mathematics principles and relationships at the end of the year based on performance on Mathematics.

A visual presentation of observed mean performance on Word Knowledge and Mathematics subtests (Figures 3 and 4) will help clarify and explain observed differences in performance at the end of the school year in May 1972. Figure 3, for example, shows that the higher performance in Word Knowledge observed in May 1972, was a function of their performance in December 1971, when compared to Bilingual children.

FIGURE 3

OBSERVED MEAN PERFORMANCE OF CONTROL 2 AND BILINGUAL CHILDREN ON WORD KNOWLEDGE SUBTEST



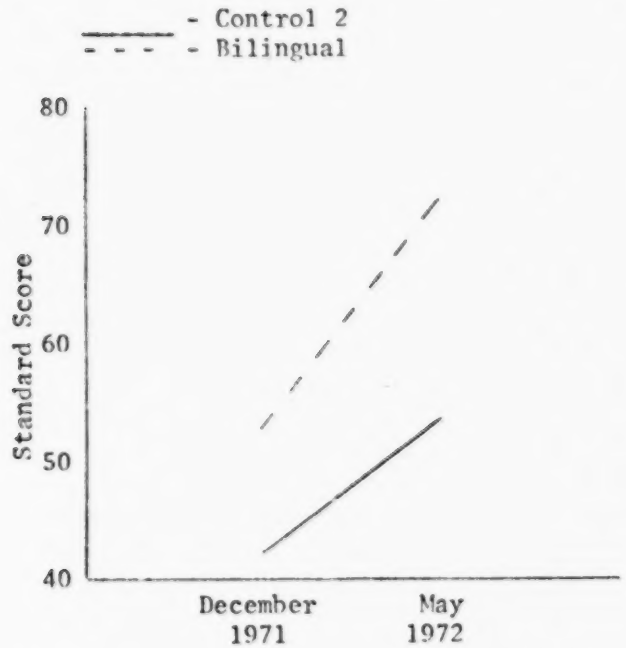
	December 1971	May 1972
Control 2	36.75	54.62
Bilingual	31.20	50.10

- Control 2 children evidenced significantly higher level of reading vocabulary at the end of the school year than did the Bilingual children. However, differences in performance in May 1972 are a function of observed differences between the two groups in Decmeber 1971.

Figure 4, on the other hand, illustrates that higher level of performance among Bilingual participants in Mathematics subtest at the end of the school year, was a function of larger gains over a four-month period as compared to Control 2 children. This finding appears to give some validity to theoretical speculations and comments made by some teachers that acquisition of concepts taught in the child's native language appeared to occur faster as well as easier.

FIGURE 4

OBSERVED MEAN PERFORMANCE OF CONTROL 2 AND BILINGUAL CHILDREN ON NUMBERS SUBTEST



	December 1971	May 1972
Control 2	42.20	53.72
Bilingual	51.52	72.25

. Bilingual children evidenced significantly greater gains in acquisition of basic math skills over a four-month period than did Control 2 children.

Girls Vs. Boys (Bilingual-Control 2 Group): Overall group differences between the Boys and Girls were highly significant ($p < .01$) as a multivariate F-value of 5.02 was noted.

Analysis of test performance indicated that two out of four subtests contributed to the overall group difference (Table 3).

TABLE 3

STEPDOWN F-VALUES BY VARIABLE:
GIRLS VS. BOYS AT SECOND GRADE*

Metropolitan Achievement	Girls (N=9)	Boys (N=9)	Stepdown F
Reading	42.17	44.09	0.91
Word Knowledge	50.42	51.37	0.13
Word Analysis	50.35	44.20	5.08**
Mathematics	60.48	64.31	9.56*

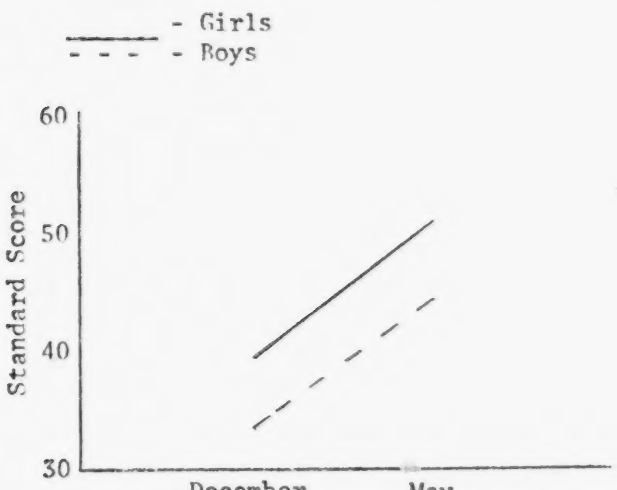
* $p < .01$
** $p < .05$

- Girls demonstrated a higher level of basic decoding skills or sound-letter relationships based on performance on Word Analysis.
- Boys demonstrated a higher level of knowledge of basic math principles and relationships.

Graphical illustrations of observed mean performance on Word Analysis and Mathematics subtests (Figures 5 and 6) will help explain the observed differences in performance at the end of the school year in May 1972. In Figure 5, it could be noted that the higher performance among Girls at the end of the school year was a function of similar performance in December 1971.

FIGURE 5

OBSERVED MEAN PERFORMANCE OF GIRLS AND BOYS ON WORD ANALYSIS SUBTEST



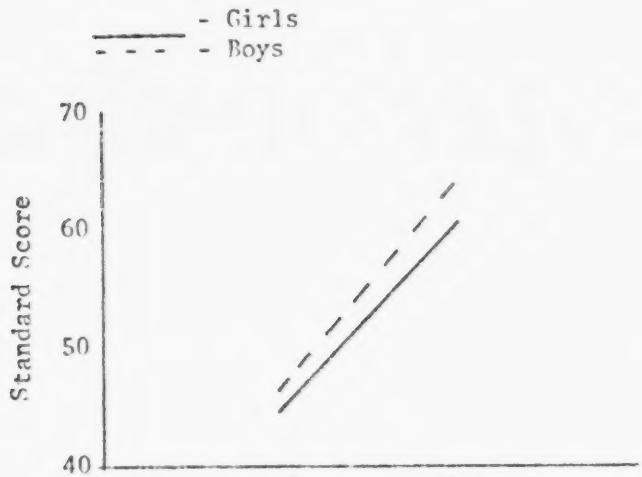
	December 1971	May 1972
Girls	39.77	50.35
Boys	33.77	44.20

- Girls evidenced significantly higher level of sound-letter relationships and basic decoding skills than did Boys at the end of the school year. However, differences in May 1972 are a function of earlier differences noted in December 1971.

Figure 6, however, shows that observed differences in basic math skills between Girls and Boys were a function of greater gains observed for Boys.

FIGURE 6

OBSERVED MEAN PERFORMANCE OF GIRLS AND BOYS ON MATHEMATICS SUBTEST



	December 1971	May 1972
Girls	44.72	60.48
Boys	46.60	64.31

- Boys demonstrated greater gains in acquisition of basic mathematics principles and relationships than did Girls over a four-month period.

APPENDICES

APPENDIX A-1

SAMPLE OF A DAY SCHEDULE LESSON PLAN

CLASS	MATERIALS	EVALUATION
9:00 ESL I Unit III - Lesson 1 Introduce: I have/want a ___. What do you have/want?	Kit pictures 7-10; 13; 15-17; 22 Small vocabulary cards; stars	
9:30 - 10:30 Reading I Kid-Kit - Step 18; Reading by structures; Nat the Rat - Step 27; On the Rock - Step 4; Introduction	Chart 53; tape recorder; Chart 25 - puppets; flannel board figures of Mom, Pop, and Tod; sentence strip	
10:30 - 10:45 recess		
10:45 - 11:20 ESL II Unit VI - Lesson I Introduce: I'm_____. How do you feel?	Kit pictures; 31-37; small vocabulary cards; tape recorder	
11:20 - 11:40 Handwriting II; Writing a question. I'm _____. How are you?	Overhead projector; primary paper	
12:30 - 1:30 Reading I Kid Kit; Complete seatwork book; p. 19; Nat the Rat; Word drill; On the Rock; Play practice	Bingo Cards; Word Cards	
1:00 - 1:30 Art Continue work on stick puppets for On the Rock; Make objects for mystery box for ESL; I have/want lesson	Puppet materials; Construction paper; Glue; Crayons; Scissors; Small tagboard cards	
1:30 - 2:00 ESL I Whole group; Beginning Fluency; Filmstrip; Set I; The Three Birds	Record player; Filmstrip projector; The Three Birds - Set I	
2:00 - 2:30 Reading II Hot Corn Muffins; Oral practice questions p. 27 Teacher's Manual; Camping Trip; Song	Tape recorder #403	
2:30 - 3:00 ESL II Song; How do you feel today?	Bells, Triangles	

APPENDIX A-2

SCHEDULE OF A DAY SCHEDULE LESSON PLAN

CLASS	MATERIALS	EVALUATION
9:00 - 9:30 Math II Group I: Facts in set 1 (10 facts) Group II: Set 1 subtraction facts; reviewing and drill	Counting sticks; Flash Cards	
9:30 - 10:30 Reading Hot Corn Muffins; Step 23; The Camping Trip; Step 11	Charts 77 - 78 Tape recorder; Charts 88 - 89; Word cards, tree	
10:30 - 10:45 Recess		
10:45 - 11:20 Math I Whole group measuring a foot	Rulers; Classroom objects	
11:20 - 11:40 Handwriting I Writing Statements: I have/ want____. Toy vocabulary	Overhead projector	
12:30 - 1:00 Unit II Review; What Is An Island, p. 3, Discovering Puerto Rico; Present Mona Island	Activity Books	
1:00 - 1:30 Art II p. 9 from Activity Book - Treasure Chest Find on Mona Island	Tempera; Painting Paper	
1:30 - 2:00 Math II Whole group; Fact drill see A.M.; Teams A and B	Tokens; Flash Cards; Bingo Sets	
2:00 - 2:30 Math I Group I: Review and drill facts with minuends of 7 and 8 Group II: Review Measuring a Foot with Miss Figueroa	Flash Cards; Speed Quiz	
2:30 - 3:00 Unit I Introduce Poem; "Lluvia Lluvia"	Ditto Pictures; Flannel Board; Rain; Umbrella; Clouds	

APPENDIX A-3

ENGLISH-AS-A-SECOND LANGUAGE UNIT LESSON

Language Patterns

It's a _____.
What is it?

Vocabulary

truck	wagon
airplane	rope
top	mask

Materials

kit pictures
9-12
14
18

small vocabulary cards (toys and school voc.)
school chart
yard chart

Review

Review the following items:

What does he/she have? He/she has a _____.
What does he/she want? He/she wants a _____.

ball car bat kite boat doll

Place stand-up figures of a boy and a girl on the table. In front of each figure place a toy object or picture. Model the patterns once individually about the figures.

Review the following vocabulary items using the pattern:

What is it? It's a _____.

truck airplane top wagon rope mask

Place kit pictures up on the chalk tray and model the pattern for the children once or twice. Then have the children come up one at a time and identify each card. The child, when finished, may continue asking the question to the next child.

New Material

A. Modeling Stage

1. Leave the pictures of a truck, an airplane, a top etc., on the chalk tray. Call a boy to the front of the class and ask him "What do you want?" Indicate to the child that he is to point to the toy he wants. Then present the pattern "He wants a _____." Do this a few times with different objects with the boy and go from the Whole Group to the Individual Response.

2. Then call up a girl and go through the same procedure.

B. Signaling Stage

1. With the vocabulary cards still on the chalk tray, have a child come to the front of the group and say what he wants. Then ask the group "What does he want?" The whole group responds with "He wants a _____."

   Do this with other objects and go from the Whole Group Response to the Small Group to the Individual Response.

2. Then call a girl up to the front of the group and do the same signaling exercise that you did with the boy.

C. Drilling Stage

1. Make two tagboard charts with several slits in them. At the top of one picture have a boy and a girl in school. At the top of the other picture have a boy and a girl in a yard. Place vocabulary pictures of the school and toy vocabulary where they can be easily seen. Point to one of the children on the chart and ask the question "What does she want?" A child takes a picture and says "She wants a _____" and places the picture in the correct chart.

2. Do the same with the figure of a boy. After you have asked the question a few times, choose different children to ask the questions in your place. Lead the children to the point where they can go back and forth comfortably between "he" and "she."

3. For a review and culminating activity for this class bring in the patterns "She has a _____" and "He has a _____."

APPENDIX A-4

Ficke Individual Program
Education
Individual Progress Record
Sheet 1

NAME: _____

COUNTING

___ 1 to 10

___ 10 to 25

___ uses number line in counting

ORDINALS

___ uses first through sixth

NUMBERS AND NUMERALS

___ reads numerals 1 to 10

___ reads numerals 10 to 25

___ reads number words through six

___ writes numerals 1 through 10

___ knows his address

ADDITION

___ understands and uses facts through 6

___ recognizes vertical and equation forms

SUBTRACTION

___ understands and uses facts which have minuends through 6

___ recognizes vertical and equation forms

FRACTIONAL PARTS

___ understands one-half of an object or a group

TIME

___ tells time to the hour

___ has concept of noon, evening, and night

MONEY

___ knows the value of a penny and a nickle

___ can use the cent sign

___ can make change from a nickle

LENGTH

___ understands the foot and yard

Hicks Bilingual Program
Mathematics
Individual Progress Record
Sheet 2

NAME: _____

COUNTING

___ 25 to 50

___ by twos to 10

READING AND WRITING

___ reads numerals to 50

___ writes numerals to 25

___ knows his telephone number

ADDITION

___ understands and uses facts which have sums

SUBTRACTION

___ understands and uses facts which have minuends of 7 and 8

LENGTH

___ uses ruler to measure foot and inch

TIME

___ has concept of the calendar

Hicks Bilingual Program
Mathematics
Individual Progress Record
Sheet 3

NAME: _____

COUNTING

___ 50 to 75

PLACE VALUE

___ understands the meaning of numbers to 20; amounts to 20;

READING AND WRITING

___ reads numerals to 75

___ writes numerals to 50

___ writes his address and telephone number

ADDITION

___ understands and uses facts which have sums of 9 and 10

SUBTRACTION

___ understands and uses facts which have minuends of 9 and 10

Hicks Bilingual Program
Mathematics
Individual Progress Record
Sheet 4

NAME: _____

COUNTING

___ 1 to 99

___ by tens to 20

___ by fives to 25

ORDINALS

___ knows first through eighth

PLACE VALUE

___ Understands the meaning of numbers to 99 and amounts to 50¢

READING AND WRITING

___ reads numerals to 99

___ reads amounts to 50¢

___ reads number words to eight

___ writes numerals to 75

___ writes amounts to 50¢

___ writes birthdate

ADDITION

___ knows the facts in Set 1 (10 facts)

SUBTRACTION

___ knows the facts in Set 1 (10 facts)

TIME

___ tells time to the half hour

MONEY

___ knows the value of a quarter

WEIGHT

___ has concept of a pound

SYMBOLS

___ understands the symbols of operation + —

Hicks Bilingual Program
Mathematics
Individual Progress Record
Sheet 5

NAME: _____

COUNTING

___ by twos to 30

___ by fives to 50

___ by tens to 50

PLACE VALUE

___ understands amounts to 99¢

___ uses zero as a number and a place holder

READING AND WRITING

___ reads amounts to 99¢

___ writes numerals to 99

___ writes amounts to 99¢

___ writes number words to ten

ADDITION

___ knows the facts in set 2 (11 facts)

SUBTRACTION

___ knows the facts in set 2 (11 facts)

MONEY

___ makes change from a dime

Hicks Bilingual Program
Mathematics
Individual Progress Record
Sheet 7

NAME: _____

COUNTING

___ 1 to 200

___ by ones to 200

___ by twos to 100

ORDINALS

___ knows first through thirty-first

PLACE VALUE

___ understands the meaning of numbers to 2000 and amounts to 99¢/$.99

READING AND WRITING

___ reads numerals to 200

___ reads number words through twelve

___ writes numerals to 200

___ writes number words through twelve

ADDITION

___ knows the facts in sets 4 and 5 (sums of 7 and 8-17 facts)

SUBTRACTION

___ knows facts in sets 4 and 5 (sums of 7 and 8-17 facts)

FRACTIONAL PARTS

___ knows one-fourth of a group

TIME

___ tells time to the quarter-hour

MONEY

___ makes change from 15¢

___ knows the value of a half dollar

___ understands and uses the decimal point and dollar sign

SYMBOLS

___ understands the symbols of inequality

Wichita Mathematics Program
Mathematics
Individual Progress Record
Sheet 8

NAME: _____

COUNTING

___ 1 to 250

PLACE VALUE

___ understands the meaning of numbers to 250 and amounts to $1.00

READING AND WRITING

___ reads numerals to 250
___ reads amounts to $1.00
___ reads number words through sixteen

___ writes numerals to 250
___ writes amounts to $1.00
___ writes number words through sixteen

ADDITION

___ knows facts in sets 6 and 7 (sums of 9 and 10 - 19 facts)

___ adds one - or two-place numbers to two addends, sums of each column nine or less (step 1)

SUBTRACTION

___ knows facts in sets 6 and 7 (minuends of 9 and 10 - 19 facts)

___ subtracts one - or two-place number from two-place numbers (no regrouping - step 1)

PRACTICAL USES

___ understands the concept of one-third of an object

MONEY

___ knows the value of a dollar

LENGTH

___ knows how to measure to the half-inch

Hicks Bilingual Program
Mathematics
Individual Progress Record
Sheet 9

NAME: _____

PLACE VALUE

____ understands the meaning of amounts to $2.50

READING AND WRITING

___ reads number words to twenty

___ writes number words to twenty

ADDITION

___ knows facts in set 8 (sums of 11-8 facts)

___ adds one-place numbers to addends, including zeros, the sum nine or less (step 2)

___ adds one - or two-place numbers to three addends, including some empty spaces and zeros, sum of each column nine or less (step 3)

SUBTRACTION

___ knows facts in set 8 (minuends of 11-8 facts)

___ subtracts two- or three-place numbers from three-place numbers, including zeros; no regrouping (step 2)

___ checks by addition

MONEY

___ makes change from 20¢

Hicks Bilingual Program
Mathematics
Individual Progress Record
Sheet 10

NAME: _____

COUNTING

___ 1 to 500

PLACE VALUE

___ understands the meaning of numbers to 500 and amounts to $5.00

READING AND WRITING

___ reads numerals to 500

___ reads amounts to $5.00

___ reads number words to forty

___ writes numerals to 500

___ writes amounts to $5.00

___ writes number words to forty

ADDITION

___ knows facts in set 9 (sums of 12-7 facts)

___ adds one-place numbers to two-place numbers; sums in the teens (step 4)

___ adds one-place numbers to three addends; sums in the teens (step 5)

___ adds two-place numbers to two addends; regrouping ten ones as one ten (step 6)

___ adds one-two-place numbers to three addends; include zeros and empty spaces; regrouping ten ones as one ten (step 7)

SUBTRACTION

___ knows the facts in set 9 (minuends of 12-7 facts)

___ subtracts two-place numbers from two-place numbers with regrouping; ones' digit in the minuend smaller than the ones' digit in the subtrahend; include zero in ones place in the minuend (step 3)

TIME

___ tells time to the five minute period

Hicks Bilingual Program
Mathematics
Individual Progress Record
Sheet 11

NAME: _____

READING AND WRITING

___ reads number words to sixty

___ reads Roman numerals I to V

___ writes number words to sixty

___ writes Roman numerals I to V

ADDITION

___ knows facts in sets 10 and 11 (sums of 13 through 18-21 facts)

___ two- or three-place numbers to three addends, including some empty spaces and zeros, regrouping ten tens as one hundred. (Step 8)

SUBTRACTION

___ knows the facts in sets 10 11 (minuends of 13 through 18-21 facts)

___ subtracts two- or three-place numbers from three-place numbers with regrouping; tens' digit in the minuend smaller than tens' digit in the subtrahend; include zero in tens' place in the minuend. (step 4)

TIME

___ knows numerical sequence of the months of the year

MONEY

___ makes change from a quarter

NAME: _____

COUNTING

_____ 1 to 999

PLACE VALUE

_____ understands the meaning of numbers to 999 and amounts to $9.99

READING AND WRITING

_____ reads numerals to 999
_____ reads number words to eighty

_____ writes amounts to $9.99
_____ writes numerals to 999
_____ writes amounts to $ .99
_____ writes number words to eighty

ADDITION

_____ adds two or three-place numbers to three addends, including some empty spaces and zeros; regrouping ten ones as one ten and/or ten tens as one hundred (step 9)

SUBTRACTION

_____ subtracts two - or three - place numbers from three - place numbers regrouping in two places, include zeros in both ones' and tens' places; in the minuend. (step 5)

FRACTIONAL PARTS

_____ has concept of one-third of a small group

TIME

_____ knows the seasons of the year

LIQUID MEASURE

_____ understands and uses measures of cup, pint, and quart

NAME: _____

PLACE VALUE

_____ understands the meaning of numbers to 9,999 and amounts to $10.00

READING AND WRITING

_____ reads numerals to 9,999
_____ reads amounts to $10.00
_____ reads number words to one hundred
_____ writes numerals to 9,999
_____ writes amounts to $10.00
_____ writes number words to one hundred
_____ reads Roman Numerals through XII
_____ writes Roman Numerals through XII

ADDITION

_____ adds one-place numbers to two-place numbers; bridging from the teens to the twenties (step 10)

_____ adds one-place numbers to three addends; include empty places and zeros; regrouping ten or twenty ones as one or two tens and/or ten or twenty tens as one or two hundreds (step 22)

SUBTRACTION

_____ subtracts two - or three - place numbers from three - place numbers regrouping in two places; include zero in both ones' and tens' places in the minuend (step 5)

FRACTIONAL PARTS

_____ knows one-fifth in reference to an object

_____ knows one-sixth in reference to an object

LIQUID MEASURE

___ understands and uses half-pint, gallon, and half gallon

TIME

_____ tells time to the minute

MONEY

_____ makes change from 35¢

LENGTH

_____ measures to the quarter-inch

Bilingual Program
Publications
Individual Progress Record
Sheet 14

NAME _____

READING AND WRITING

_____ reads number words to one thousand

_____ writes number words to one thousand

ADDITION

_____ adds one-place numbers to four addends; sums in the twenties (step 13)

_____ adds two-place numbers to four addends; include empty spaces and zeros; regrouping ten or twenty ones as one or two tens (step 14)

_____ adds two-or three-place numbers to four addends; include empty spaces and zeros; sums in the teens or twenties; regrouping ten or twenty ones, one or two tens and/or ten or twenty tens as one or two hundreds (step 15)

SUBTRACTION

_____ subtracts two-, three-, or four-place numbers; regrouping in one, two, or three places; include one or two successive zeros in the minued (step)

MULTIPLICATION

_____ has the concept of multiplication through addition

TIME

_____ understands and uses dates on the calendar expressed in numerals only

GRAPHS

_____ understands and uses horizontal bar graph

SYMBOLS

_____ understands and uses the multiplication sign

NAME: _____

PLACE VALUE

_____ understands and uses numbers to 99,999 and amounts to $100.00

READING ARITHMETIC

_____ reads numerals to 99,999
_____ reads amounts to $100.00
_____ reads Roman Numerals through XX

_____ writes numerals to 99,999
_____ writes amounts to $100.00
_____ writes Roman Numerals through XX

ADDITION

_____ adds one-, two-, three-, or four-place numbers to four addends; include empty spaces and zeros; sums in the thirties; regrouping in one, two, or three places (step 16)

MULTIPLICATION

_____ knows facts with multiplicands of 0, 1, 2, 3 and reverses (set 1)

APPENDIX B-1

BILINGUAL COMPONENT, PICKS SCHOOL
PRINCIPAL'S QUESTIONNAIRE

1. Please indicate your own personal opinion of the possible advantages of the Bilingual Component in your school.

The Bilingual Component adds to the educational growth of the regular teaching staff within the building and enriches the total school program.

2. Please indicate your own personal opinion of the possible disadvantages of the Bilingual Component in your school.

None at the present time.

3. Please indicate in the space provided below any comment you wish to make concerning this project's aims or implementation in your school.

The children have benefited from an excellent and dedicated teaching team. It is amazing to observe the enthusiasm for learning and daily progress being made. The program is well organized and is supervised by a master teacher - Mrs. Higuera. The objectives are being met.

4. Please indicate in the space provided any noticeable effect the program had in your school concerning: pupil reaction, parent reaction, and staff reaction. We do not expect you to poll each of these various groups, but, instead, we seek salient items which were brought to your attention as principal during the course of the experiment by any of these groups.

Teachers and parents have expressed an interest in the objectives and success of the program.

Pupils are receptive to the children.

5. Please indicate any suggestion you have concerning the organizational aspects of Bilingual Component.

1. Initiation of the program at the kindergarten level to help him/her adjust socially, emotionally, and successfully to school life.

2. Addition of an accredited supportive teacher to the staff to be used as a substitute when needed.

6. Please indicate your opinion concerning the principle of bilingual instruction in your school.

Positive. Reasons are stated in item 1.

APPENDIX B-2

SUMMARY OF BILINGUAL PROGRAM STAFF QUESTIONNAIRE RESPONSES (N=3)

1. What effects has the Project had upon student attitude toward learning your subject?

   Staff responses indicated that pupils demonstrated positive attitudes in learning English because they felt or were less pressured to accomplish so much in a short period. Understanding of concepts in subjects where instruction was carried out in the Spanish language, especially, mathematics, appeared to come easier.

2. What effects has the Project had upon student attitudes toward you as a teacher?

   Staff responses indicated that pupils and staff have a better rapport. Pupils felt free and relaxed and open in expressing their opinions about their teachers as well as opinions on what they are learning from their teachers.

3. What effects has the Project had upon student attitudes toward the use of Spanish?

   Bilingual children use the Spanish language very freely in and out of the classroom. There were some evidences also of improvement in their use of the Spanish language at the end of the school year. One of the staff commented:

   > "Students use Spanish freely. Some negative attitudes about speaking Spanish seem to have changed. Some students Spanish has improved. On the whole I think? Students take more pride in their native language."

4. What has been the parents' reaction to their children's use of Spanish in school?

   Parents' opinions about the Bilingual Program operation has become increasingly positive during the school year. They became less apprehensive on the effect of the program impact on the children's learning of the English language skills as they gained greater understanding of the program objectives, and as opportunities were created for observations of classes and for more personal contact with school and program staff.

5. What effects has the Project had upon student behavior in your class?

Staff responses indicated that bilingual participants are more themselves in their classes, perhaps, more relaxed, and "therefore, have a better chance to develop their personalities." Pupils feel freer to talk or ask questions with each other, or to the staff. One of the interesting comments by a staff member follows:

> "We encourage students to talk-our classes are noisier than others in the building. Students participate in circle discussions-help evaluate behavior and punishment. Students are eager to see each other every day. Help each other more academically than in other classes."

6. What effects has the Project had upon classroom participation?

Bilingual children were reported to participate freely in the classroom. They use both Spanish and English languages very easily during classroom activities, as well as during recess and lunch periods. Participation was reported to have gradually increased during the nine-month period.

7. What are the positive features you feel this Project has from a teacher's viewpoint?

Staff responses indicated that opportunities for "experimenting and innovating" with an idea that has been talked about, as well as bringing into practice the idea of allowing pupils to learn at their own pace, represented the positive features, from the staff's viewpoint. One of the staff members commented:

> "Teachers are pretty free to let students progress at individual rates. They know they have time to be with them. Teachers have lots of supportive help. It is exciting to see students function in 2 languages."

8. What special preparation or planning has been necessary on your part (<u>other</u>) than what you would do with a regular non-project class) to conduct the project class?

The following activities were listed by the staff as being necessary for the program's implementation:

- More reading to keep up with current techniques in bilingual education.
- More planning time needed for curriculum development.
- More planning time in order to carry out effective individualized instruction.

- Keeping up on current practices for effective parent involvement and its sustenance.

- Plans for parent contact or initiating parent interest.

9. What are the negative features you feel this Project has from a teacher's viewpoint?

Staff responses indicated that a shortage of planning time represented the major limitation of their program. Staff were not only involved with day-to-day activities in the classroom, but were also involved in developing curriculum appropriate for this population.

10. Please list in the space below any other comments, suggestions, criticisms or situations you wish to present for consideration.

Staff responses indicated as their primary recommendation the downward extension of the Bilingual Program to kindergarten. A staff member commented:

> "I want to see a bilingual kindergarten which would feed into the Hicks Program. Our first graders come to us with either no kindergarten experience or come to us from kindergarten very poorly adjusted. We spend the first semester trying to undo fears and negative attitudes towards school.
>
> "It is impossible for a child to make the kinds of adjustments necessary in kindergarten if he doesn't speak the language. Like any child, the Spanish speaking child needs to feel comfortable and happy with his first school experience."